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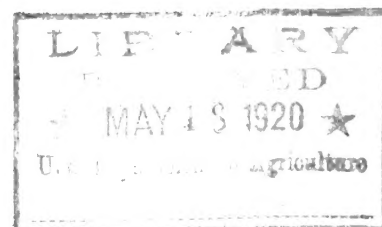
MONTHLY LETTER OF THE BUREAU OF ENTOMOLOGY  
UNITED STATES DEPARTMENT OF AGRICULTURE

Number 72

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## FEDERAL HORTICULTURAL BOARD

C. L. Marlatt, Chairman



No report has been made of the activities of the Federal Horticultural Board since October, 1919. A summary of the points of interest since that time is now given.

It was discovered late in October that the pink bollworm had reappeared in a very scattering manner over practically the whole of the original Trinity Bay area with some extensions into contiguous territory. Early in February of this year this insect was also found to have invaded three parishes in southwestern Louisiana, namely, Cameron, Calcasieu, and Jefferson Davis. Intensive surveys of Louisiana and Texas have shown no further extensions than those noted. This new and very serious development of this insect has led to very energetic action on the part of the Board and Department to secure adequate control cooperation by the States of Texas and Louisiana. A general convention on the subject was held at New Orleans, March 5, which resulted in steps being taken by the State of Louisiana to establish noncotton zones and to provide for the reimbursement of planters in the quarantined area for losses necessitated by this action. A hearing to consider a Federal quarantine was held in Washington, April 6 and 7, attended by entomologists and other representatives from all of the cotton-growing States. As a result of this hearing, it has been announced that a Federal quarantine will shortly be issued, prohibiting or restricting the movement of cotton and cotton products from the areas known to be infested in these two States, and placing restrictions on the movement of such products from large areas bordering the known infested areas and other points which are under more or less suspicion of being possibly infested. The governor of Texas has promised to call a special session of the legislature to make such amendments as may be necessary to the State Pink Bollworm Act and to provide, as in the case of Louisiana, for compensation of the planters.

The reappearance of the pink bollworm in the Trinity Bay district in Texas and the extension of the insect in Texas and Louisiana have not invalidated the extermination work which this Department has been pressing with the utmost energy under large Congressional appropriations. The possibility of success in this work has been fully demonstrated by the apparent extermination of the pest in at least two of the three invaded areas in Texas and by the very great reduction in the Trinity Bay area. The results in the latter area, however, have shown that a one-year non-cotton period is manifestly insufficient and that the prohibition of the growth of cotton should be continued for at least three years. The Department proposes to maintain with the utmost vigor the effort to exterminate this pest.

The Laguna station was closed with the conclusion of the work of 1919. Probably the continuation of this work will be intermittent for 1920 and merely to get specific information as to the amount of infestation and damage during the crop season. Of the personnel of this station, K. B. McKinney

has returned to the entomological work under Dr. W. D. Hunter. U. C. Loftin and W.K. Hanson are still connected with the Board and have been engaged in part in the preparation of the report on the work in the Laguna covering the last two years.

Mr. Loftin was commissioned early in this year to make an investigation of the insect pests of cotton in Porto Rico, more particularly to determine whether it would be advisable to permit Porto Rican cotton seed to come to the United States for milling. In the course of this work he also investigated the cotton situation in Santo Domingo at the request of the Santo Domingo Government. No pink bollworm was found either in Porto Rico or in Santo Domingo, but a large list of other cotton insects, most of them well-known enemies of this plant, were collected. A cotton blister mite however, was found which is not known to occur in the United States; and the occurrence also of certain cotton diseases in the Island, notably, an internal boll disease which seems to be widely distributed throughout the West Indies and is probably new to the United States, would seem to indicate the undesirability of permitting movement of the cotton seed referred to above.

The increasing traffic with Mexico at El Paso has made it necessary to take steps to increase the one-car fumigation house at that point to a fifteen-car house. E.R. Sasscer has recently been on the Mexican border looking into the matter of enlargement of the fumigation plant and the general situation. There is also under consideration the establishment of a similar car-fumigation house at Nogales. The quarantine as to Mexican corn has resulted in the erection of a plant for the disinfection of corn at Piedras Negras opposite Eagle Pass. Similar disinfecting plants are being considered and may later be established at El Paso, Brownsville, Del Rio, and perhaps other points on the border. Under the quarantine all Mexican corn must either be disinfected or ground to the fineness of meal. At the present time most of such corn is being ground.

Los Angeles is now preparing to compete as a port of entry for foreign corn and other grains with San Francisco and Seattle. Plans are under way for the erection at the port of Los Angeles of a vacuum fumigation plant for South American and other foreign cotton and a corn sterilization plant for Mexican and Oriental corn.

The following new quarantines have been promulgated by the Board since October, 1919:

Quarantine on Account of the Japanese Beetle (a revision).

Quarantine Against Indian Corn or Maize from Mexico on Account of the Pink Bollworm.

Quarantine Against the Stalks or other Parts of Indian Corn or Maize, Broom Corn and Related Plants from all Foreign Countries on Account of the European Corn Borer. (Domestic).

Quarantine on Account of the European Corn Borer (Domestic).

Quarantine Against Stocks, Cuttings, Scions, and Buds of Fruits from the Orient on Account of Certain Injurious Insect Pests and Plant Diseases.

The personnel of the Federal Horticultural Board is growing rapidly and very few of the changes and additions have been recorded in the Monthly Letter. The total number of employees and collaborators

of the Board is as follows:

Technical employees, including entomologists and pathologists.....	113
Administrative force.....	29
Collaborators.....	72
Total.....	214

# TROPICAL AND SUBTROPICAL FRUIT INSECT INVESTIGATIONS

C. L. Marlatt, Entomologist in Charge.

No report has been made of the activities of this branch of the Bureau since October, 1919.

The force in California under the direction of R.S. Woglum has been continuing the experiments with liquid hydrocyanic acid, the influence of temperature and sunshine on the killing power of the gas on insects and its effect on trees, and also on the relationship between the use of Bordeaux paste, and the amount of fumigation injury. Some of the results of this work are included in two manuscripts submitted for publication by Mr. Woglum, entitled "Fumigation of citrus plants; conditions influencing injury" and "XXX Value of gas-tight covers in orchard fumigation." A new formula has been devised for an ant syrup that will not crystallize in cold weather. A bulletin setting forth the results of the Argentine ant work is now in preparation.

A.D. Borden, in addition to his cooperation in the work just outlined, has had charge of a renewed investigation of the two principal scale insects of the date palm and has been making trips from time to time to the Imperial Valley for the purpose of working out details of life history and habits.

W.W. Yothers has recently submitted for publication in the Florida Fruit Grower an article on "The dust method for controlling rust mites on citrus trees."

E.F. Mozzette's activity is partly reflected by the following papers which he has prepared in relation to his work. These have been or will be published in the Journals indicated:

The red spider and leaf thrips on avocado and how they can be controlled. (Florida Fruit Grower.)

The banana root borer. (Journal of Agricultural Research.)

A blossom-destroying beetle on the mango. (Quarterly Bulletin of the State Plant Board of Florida.)

Dusting method versus spraying method for control of insect pests on the avocado. (The Florida Grower.)

The Dictyospermum scale on the avocado and how it may be controlled. (Quarterly Bulletin of the State Plant Board of Florida.)

Some important insects which attack the avocado in Florida. (For presentation at the Annual Meeting of the California Avocado Association, Los Angeles, May 7 and 8, 1920.)

Insects which attack the avocado in Florida. (For presentation at the Meeting of the State Horticultural Society at Ocala, May 4 to 7, 1920.)

Dr W.M. Mann has just returned from a trip of exploration in Spanish Honduras of a month's duration (February-March). It seemed desirable to obtain a first-hand knowledge of the fruit fly and other insect



pest conditions in that country on account of the active commerce in fruits and other products which is going on between Spanish Honduras and this country, principally through the port of New Orleans. Some six vessels come to New Orleans weekly from Spanish Honduras bringing bananas chiefly, but also citrus fruit, eggplant, and other miscellaneous fruits. Dr. Mann has already bred out no less than four different species of fruit flies from material collected and in addition to that has notes and specimens illustrating a good many other fruit insects of greater or lesser importance.

C.A. Weigel has been devoting most of his time to greenhouse insects. In view of E.R. Sasscer's increased responsibilities under the work of the Federal Horticultural Board, Mr. Weigel will be in practical charge of the greenhouse projects from now on. He will also cooperate in the investigation of the camphor thrips in Florida.

As a part of the greenhouse project E.L. Chambers has been stationed at Doylestown, Pa., since February 14, where in cooperation with the Bureau of Plant Industry of Pennsylvania, he is engaged in an investigation of the strawberry rootworm, or leaf beetle (Paria canella Fab.). During the past year it has developed that this insect is a very serious menace to greenhouse-grown roses.

H.F. Willard has been instructed to cooperate with Dr. E.A. Back in an investigation of the Algaroba weevil in Hawaii. This weevil is causing considerable losses to the Algaroba beans, a product which is becoming of great value as food for live stock. Mr. Willard has submitted the following papers for publication:

Opius fletcheri as a parasite of the melon fly in Hawaii. (Journal of Agricultural Research.)

Work in parasitism of the Mediterranean fruit fly in Hawaii during 1918. Journal of Agricultural Research, January 15, 1920.)

#### CEREAL AND FORAGE INSECT INVESTIGATIONS

W.R. Walton, Entomologist in Charge

On April 1, the laboratory conducted for several years at Hagerstown, Md., by the branch of cereal and forage insect investigations was abandoned. The center of the activities formerly conducted there has been transferred to Charlottesville, Va., and will be under the direction of W.J. Phillips, who has recently moved into much more commodious and convenient quarters close to the old laboratory grounds. R.H. Van Zwaluwenburg will continue at Charlottesville his studies of the Elateridae.

The transfer of the Berkeley, Cal., field laboratory to Sacramento, Cal., has been completed. The personnel of this laboratory is as follows: C.M. Packard, in charge; B.G. Thompson, scientific assistant; and Margaret Marshall, clerk. The new address is 600 - 26th St. The location of the laboratory at Sacramento will permit easy access to both the Sacramento and San Joaquin Valleys, in addition to supplying the great advantage of a more equable and suitable climate for laboratory and field experiments, and very much better opportunity for close cooperation with the California State Board of Agriculture.

Herbert Walkden, a graduate of the Massachusetts Agricultural College, has been appointed scientific assistant and detailed to the Hessian fly investigations under J.R. Horton at Wichita, Kans. Mr. Walkden reported for duty April 1.

Kenneth M. King, a graduate of the Montana Agricultural College, has been appointed scientific assistant and detailed to the wireworm investigations under W.J. Phillips at Charlottesville, Va. Mr. King reported for duty about April 22.

M.C. Lane recently left Forest Grove, Oreg., for Ritzville, Wash., where he will be stationed during the summer in charge of the wheat wireworm investigations which are being conducted in cooperation with the Washington State Agricultural College. Mr. Lane expects to work in cooperation with the State men at the Lind Experiment Station.

W.B. Cartwright, formerly employed at Knoxville, Tenn., under George Ainslie, has been transferred to the West Lafayette, Ind., staff under W.H. Larrimer. For the present he will be in charge of the Hessian fly experiment plots at Centralia, Ill. Mr. Cartwright's transfer took effect April 1, 1920.

Charles H. Gable, formerly located at Tempe, Ariz., under V.L. Wildermuth, is proceeding to San Antonio, Texas, where he will begin an investigation of the sorghum midge, an insect of primary importance in western Texas. Mr. Gable's formal transfer will occur about May 1.

B.G. Thompson, formerly located at Forest Grove, Oreg., reported for duty at Sacramento, Cal., January 11, 1920.

Ralph A. Blanchard has been appointed as field assistant in insect control and transferred temporarily to the Hessian fly investigations at West Lafayette, Ind. Mr. Blanchard expects to return to Webster Groves, Mo., in order to complete his education later in the year.

H.N. Bartley, E.G. Brewer, J.W. Enwright, and T.R. Richardson have been appointed as field assistants in insect control under L.H. Worthley, and entered on their new appointment April 1.

Saul Phillips and Claude E. Towle have been appointed field superintendents in insect control under L.H. Worthley. Both Mr. Phillips and Mr. Towle have had many years' experience in the gipsy moth and other control work, and are assisting Mr. Worthley in general supervision of the corn borer control activities.

L.B. Sanderson, Dexter H. Craig, and E.M. Searls have been appointed as field assistants in insect control. Messrs. Craig and Sanderson have been assigned to the European corn borer work under D.J. Caffrey at Arlington, Mass., and Mr. Searls has been detailed to the work under C.F. Turner at Schenectady, N. Y.

Some twenty-four boxes of parasitic material for use in the corn borer investigations arrived at the port of New York during the week of April 4. This material was shipped from Bordeaux, France, by W.R. Thompson, who is in charge of a laboratory which has been established at Auch, Gers, France, for the purpose of studying and collecting the European parasites of Pyrausta nubilalis. This material was immediately trans-shipped to Boston in charge of Harry L. Parker, and the primary parasites emerging from it very probably will be liberated in suitable areas in eastern Massachusetts during the next few weeks.

LIBRARY

Mabel Colcord, Librarian

New Books

- Byam, W., et al. Trench fever, a louse-borne disease..... 196 p., diag., pl. 8°. London, Henry Frowdes; Hodder & Stoughton, 1919.
- Calwer, C.G. Käferbuch. Naturgeschichte der käfer Europas. Ed. 6 rev. hrsg. von Camillo Schaufuss. Stuttgart, E. Schweizerbart'sche Verlagsbuchhandlung, Nögle & Sproesser, 1919. Lfg. 26 (Schluss lieferung)
- Froggatt, Gladys H. The world of little lives, 169 p. illus. 8°. Sydney, Australia, Wm. Brooks & Co., Ltd., 1916.
- Honnell, Robert. Apiculture. Ed. 3 rev. 501 p. illus. 8°. Paris, Librairie J.-B. Bailliere et fils, 1919. (Encyclopedie agricole...G. Wery.)
- Howes, P.G. Insect behavior. 176 p. pl. 8°. Boston, Richard G. Badger, The Gorham Press, 1919.
- Liston, W.G. The "next war": man versus insects. In Indian Journ. Med. Research. Special Indian Science Congress Number 1919, p. 18-25.
- Piepers, M.C., and Snellen, P.C.T. The Rhopalocera of Java. Erycinidae, Lycaenidae. With the collaboration of H. Fruhstorfer... 119 p. col. pl. ~~xxxxx~~. XIX-XXVII. The Hague, Martinus Nijhoff, 1918.
- Shiraki, Tokuchi. Blood-sucking insects of Formosa. Pt. 1. Tabanidae, with Japanese species. 441 p. 11 pl. Taihoku, Agricultural Experiment Station, Formosa.
- Wesenberg-Lund, C.J. ed. Vilh. Bergse Fra mark og skov, billeder af insekternes liv, i ny bearbejdelse ved C. Wesenberg-Lund. Kjobenhavn og Kristiania, Glydendalske boghandel nordisk forlag, 1915. v. 1-2. illus. v. 1 Insekternes bygning. v. 2 Insekternes forhold til mennesket.
- Wytsman, P. Genera insectorum. fasc. 172-173. fasc. 172 Coleoptera longicornia. Fam. Cerambycidae. Subfam. Prioninae, by August Lameere. 185 p. 8 pl. Bruxelles, Desmet-Vertereauil, 1919. fasc. 173 Coleoptera. Fam. Staphylinidae, Subfam. Aleocharinae by A. Fenyès. 110 p. 7 col. pl. La Have, Nijhoff, 1918.

STORED PRODUCT INSECT INVESTIGATIONS

E.A. Back, Entomologist in Charge.

Conserving corn from weevils is one of the finest pieces of work that the county agents of the South can foster among farmers. Dr. Back has just returned from a two weeks' review of the work of S.E. McClendon in southern Georgia, and is gratified to report that what was a slow, up-hill undertaking when Mr. McClendon first began his work with the Bureau during the war, has now behind it the interest and cooperation of an ever-increasing number of prominent business men, farmers, and county agents. One county agent who could not be persuaded that weevil loss is preventable, simple, and pays handsome returns if given proper attention in farm economy, has now as a result of Mr. McClendon's work, set out to have 100 cribs in his county tight enough by fall to prevent weevil loss. One rich farmer with a tight



crib had failed twice to kill weevils in his corn by fumigation with carbon disulphid. Inquiry has proved that no one could have succeeded under like conditions for he did not follow directions. He felt, as a result of his work, that weevil control was useless, and his influence in the community was considerable. McClendon fumigated his crib, got results, and left behind an enthusiastic worker for insect control. While much of the future work will naturally be done by county agents, the credit for success in the hard up-hill work against the weevil in south Georgia belongs to Mr. McClendon.

R.T. Cotton has recently submitted for publication three short technical papers relating to his work with weevil biologies at Orlando, Fla. His last paper, giving certain results of a year's life-history work with the rice weevil, Calandra oryza, contains more information about this major pest than has been secured before.

Clothes-moth injury to brushes throughout the country is enormous. A circular letter sent to dealers in brushes following a request of the National Hardware Association that the Bureau undertake an investigation of clothes-moth control in this class of manufactures has elicited a very general and hearty response. Certain dealers state that their losses are at times as high as 10 per cent. One company, at the suggestion of this office, has already constructed in its warehouse an excellent fumigating room.

A.O. Larson has submitted for outside publication two short papers relating to bean weevil investigations.

A cable from Hawaii states that J.C. Bridwell sailed from Honolulu April 23. Mr Bridwell will be in Washington soon for a consultation regarding the proposed study of the Algaroba bean weevil, Bruchus prosopis, and its parasites.

F.B. Milliken has refused summer work with this Bureau, having accepted work in Extension entomology with the Kansas Experiment Station for the summer months.

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